

Zoe Krauss

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EDUCATION	Ph.D. University of Washington, School of Oceanography Marine Geology & Geophysics; Advisor: William S. D. Wilcock	2024
	M.S. University of Washington, School of Oceanography	2021
	B.A. Colorado College Physics major: Geophysics emphasis; Magna cum laude, Phi Beta Kappa	2019

PUBLICATIONS	<p>Krauss, Z., Wilcock, W., & Creager, K. (2025). Possible Shallow Tectonic Tremor Signals Near the Deformation Front in Central Cascadia. <i>Seismica</i>, 2(4).</p> <p>Krauss, Z., Baillard, C., Wilcock, W. S., Heesemann, M., Schlesinger, A., & Kukovica, J. (2025). A Single-Station Earthquake Catalog for the Endeavour Segment of the Juan de Fuca Ridge (2011–2016): Challenges and Implications for the Spreading Cycle. <i>Seismological Research Letters</i>.</p> <p>Evans, G. N., Krauss, Z., Lilley, M. D., Seyfried Jr, W. E., & Wilcock, W. S. (2025). Tectonically induced changes in vent fluid compositions and metal concentrations at Main Endeavour Field, northeast Pacific Ocean. <i>Earth and Planetary Science Letters</i>, 666, 119485.</p> <p>Denolle, M., et al. (2025). Training the Next Generation of Seismologists: Delivering Research-Grade Software Education for Cloud and HPC Computing through Diverse Training Modalities. <i>Seismological Research Letters</i>.</p> <p>Krauss, Z., Ni, Y., Henderson, S., & Denolle, M. (2023). Seismology in the cloud: guidance for the individual researcher. <i>Seismica</i>, 2(2).</p> <p>Krauss, Z., Wilcock, W. S.D., Heesemann, M., Schlesinger, A., Kukovica, J., & Farrugia, J. J. (2023). A Long-Term Earthquake Catalog for the Endeavour Segment: Constraints on the Extensional Cycle and Evidence for Hydrothermal Venting Supported by Propagating Rifts. <i>Journal of Geophysical Research: Solid Earth</i>, 128(2), e2022JB025662.</p> <p>Krauss, Z., & Menke, W. (2020). The Northern Gulf Anomaly: P-and S-wave travel time delays illuminate a strong thermal feature beneath the Northern Gulf of Mexico. <i>Earth and Planetary Science Letters</i>, 534, 116102.</p> <p>Almendros, J., et al. (2020). BRAVOSEIS: Geophysical investigation of rifting and volcanism in the Bransfield strait, Antarctica. <i>Journal of South American Earth Sciences</i> 104: 102834.</p> <p>Borella, J., Quigley, M., Krauss, Z., Lincoln, K., Attanayake, J., Stamp, L., Lanman, H., Levine, S., Hampton, S. & Gravley, D. (2019). Geologic and geomorphic controls on rockfall hazard: how well</p>
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do past rockfalls predict future distributions?. *Natural Hazards and Earth System Sciences*, 19(10), 2249-2280.

ARTICLES IN PREPARATION

Krauss, Z., & Wilcock, W. S.D. (completed dissertation chapter). Repeating earthquakes and earthquake swarms at the Endeavour segment: direct evidence for aseismic slip at a mid-ocean ridge.

WHITE PAPERS

Krauss, Z., Eilon, Z., Parnell-Turner, R., Janiszewski, H., Worthington, L., Kidiwela, M., & Brunsvik., B. (2021). Call to expand ocean bottom seismograph (OBS) facilities and instrument pool for ambitious Rift2Ridge science. 2021 Rift2Ridge Workshop.

INVITED TALKS

InterRidge Webinar Series, 2024 (virtual seminar).
Near-real-time Seismic Monitoring of a Mid-ocean Ridge.
 AGU Fall Meeting, San Francisco, CA, 2023 (talk).
Near-real-time Seismic Monitoring of Tectonically-Influenced Mid-ocean Ridge Hydrothermal Vent Fields.
 USGS Menlo Park and Stanford Reading Group, 2021 (virtual seminar).
Deep structure of the Northern Gulf of Mexico from Seismic Data.

AWARDS

SSA Annual Meeting Student Presentation Award	2024
AGU Outstanding Student Presentation Award (OSPA)	2023
NDSEG Conference Exemplary Poster Award	2022
AGU Outstanding Student Presentation Award (OSPA)	2021
National Defense Science and Engineering Fellowship (NDSEG)	2020
<i>Full tuition and \$114,000 stipend support over 3 years</i>	
<i>Travel allowance of \$5,000</i>	
NSF Graduate Research Fellowship	2020
<i>Declined in favor of the NDSEG</i>	
ARCS Fellowship, University of Washington	2019
<i>\$17,500 of additional support over 3 years</i>	
NSF Graduate Research Fellowship, Honorable Mention	2019
Association of Women Geoscientists Outstanding Student Award	2019
Cowperthwaite Award for Excellence in Physics	2019
<i>Awarded by the Colorado College Physics Department</i>	

SEMINAR TALKS

Understanding the marine seismoacoustic noise field near Cascadia's deformation front: does tectonic tremor occur at shallow depths?
 Seismolunch Seminar, University of Washington. (2024)
Slow slip in shallow Cascadia: looking for tremor on ocean bottom seismometers. Marine Geology and Geophysics Seminar, University of Washington. (2023)
Long-term seismic data unlocks the story of a mid-ocean ridge. Ocean Networks Canada Lunch and Learn, general audience. (2023)
Long-term and real-time seismic monitoring of a mid-ocean ridge. Pacific Geoscience Center-University of Victoria Seminar. (2023)

Machine-learning-based detection of offshore earthquakes. Data Science Seminar, University of Washington. (2022)
Building and interpreting an earthquake catalog for the Endeavour segment. Seismolunch Seminar and the Marine Geology and Geophysics Seminar, University of Washington, virtual. (2021)

CONFERENCE PRESENTATIONS	SSA Annual Meeting, Anchorage, AK (talk)	2024
	<i>Searching for Low-Amplitude Shallow Tectonic Tremor in Cascadia Using Buried Ocean Bottom Seismometers</i>	
	AGU Fall Meeting, San Francisco, CA (poster)	2023
	<i>Offshore Seismic Signals of Deformation in the Shallow Cascadia Subduction Zone</i>	
	SSA Annual Meeting, San Juan, PR (poster)	2023
	<i>Constructing Cloud Resources for the Individual Researcher From the Ground Up: An Example of Earthquake Detection in the Cloud</i>	
	AGU Fall Meeting, Chicago, IL (poster)	2022
	<i>Investigating microearthquake multiplets using ocean bottom seismometers in a mid-ocean ridge hydrothermal field</i>	
	NDSEG Fellows Conference, Boston, MA (poster and talk)	2022
	<i>Using real-time offshore seismic observations to understand the seafloor spreading cycle</i>	
	SSA Annual Meeting, Bellevue, WA (poster)	2022
	<i>Long-term Earthquake Catalog for the Endeavour Segment of the Juan De Fuca Ridge Highlights the Influence of Propagating Rifts on Hydrothermal Venting</i>	
COMPUTATIONAL EXPERIENCE	AGU Fall Meeting, virtual (talk)	2021
	<i>Long-term earthquake patterns at the Endeavour Segment, Juan de Fuca Ridge</i>	
	Rift2Ridge Workshop, virtual (lightning talk)	2021
	<i>Lessons from multiple decades of observations on the Endeavour Segment</i>	
	Marine Seismology Symposium, virtual (live short talk)	2021
COMPUTATIONAL SUPPORT	<i>Building a Multidecadal Microearthquake Catalog for the Endeavour Segment of the Juan de Fuca Ridge</i>	
	Proficient in Python and Matlab	
	Experience with cloud computing (Azure), Git, Linux systems	
	University of Washington Azure Cloud Support	2023
	\$5,000 of Azure cloud computing credits to use toward the documentation of time and cost scaling of seismic workflows.	
	University of Washington eScience Cloud ReproHack Week	2022
	Chosen to work alongside Microsoft Azure cloud computing experts to migrate local workflows onto the cloud.	
	University of Washington Azure Cloud Support	2022
	\$20,000 of Azure cloud computing credits to use towards the creation of earthquake catalogs using machine learning.	

	University of Washington eScience Incubator Program	2022
	Accepted to work one-on-one with a professional data scientist for 10 weeks to create a machine-learning-based earthquake catalog curation workflow using cloud computing resources.	
MEETING ORGANIZATION	Organizing committee member, Endeavour 2024 Workshop.	2024
	Cross-disciplinary planning meeting for scientific response to an anticipated volcanic event.	
	Session co-convenor, SSA 2024. <i>Leveraging Cutting-Edge Cyberinfrastructure for Large Scale Data Analysis and Education.</i>	2024
TEACHING AND MENTORSHIP	OCEAN 320: Coastal Oceanography	2024
	Teaching assistant, University of Washington	
	Co-led lab sessions, including some in Python	
	Led office hours	
	Data Science in Oceanography Summer Program	2022
	Mentor, University of Washington	
	Prepared and led Python tutorials on introductory seismic analysis	
	Gave introductory lecture to Marine Geology and Geophysics	
	Served as mentor for an undergraduate project	
	OCEAN 201: Intro to Oceanography Lab	2021
	Teaching assistant, University of Washington, virtual due to COVID	
	Prepared lab experiments and reports	
	Graded ~40 lab reports per week	
	Co-led synchronous lab sessions	
FIELD EXPERIENCE	OBS redeployment at Axial Seamount, R/V Sally Ride	2023
	DAS deployment on OOI cabled network, Pacific City, OR	2021
	OBS retrieval at Bransfield Strait, Antarctica, R/V Hesperides	2020
	Frontiers Abroad geology field camp, New Zealand	2017
MEDIA COVERAGE	Interviews following the March 2024 earthquake swarm at the Endeavour segment	
	Front page of the Times Colonist	
	Additional stories by Vancouver Sun , CBC Canada , Live Science	
	EarthScope interview for the Krauss et al. (2023) Seismica article	
	Cloud case study: a seismic processing tutorial for your first foray	